Arkema Chemical Facility
Potential Release
EPA Response Strategy

Situation: The Arkema Chemical Facility, 18000 Crosby East Gate Road, Crosby, Harris County, TX stores chemicals that are currently at risk of release or explosion due to the facility's inability to maintain refrigeration on the chemical containers.

Facility Information: The Arkema facility stores approximately 1 .3 million pounds of organic peroxides and 47,000 lbs. of sulfur dioxide. Chlorine gas (3 100-lb cylinders) are also stored on site. The facility is both a Tier II facility and RMP facility.

Hazard Assessment: A worst case scenario included in the facility's RMP indicates an endpoint of 23 miles. However, this scenario is for a catastrophic release of Sulphur dioxide. Based on the current scenario and with forecast weather conditions, modeling by NARAC (National Atmospheric Release Advisory Center) recommended a 1.5 mile evacuation zone. This evacuation was implemented by the local Emergency Officials on 8/30/2017.

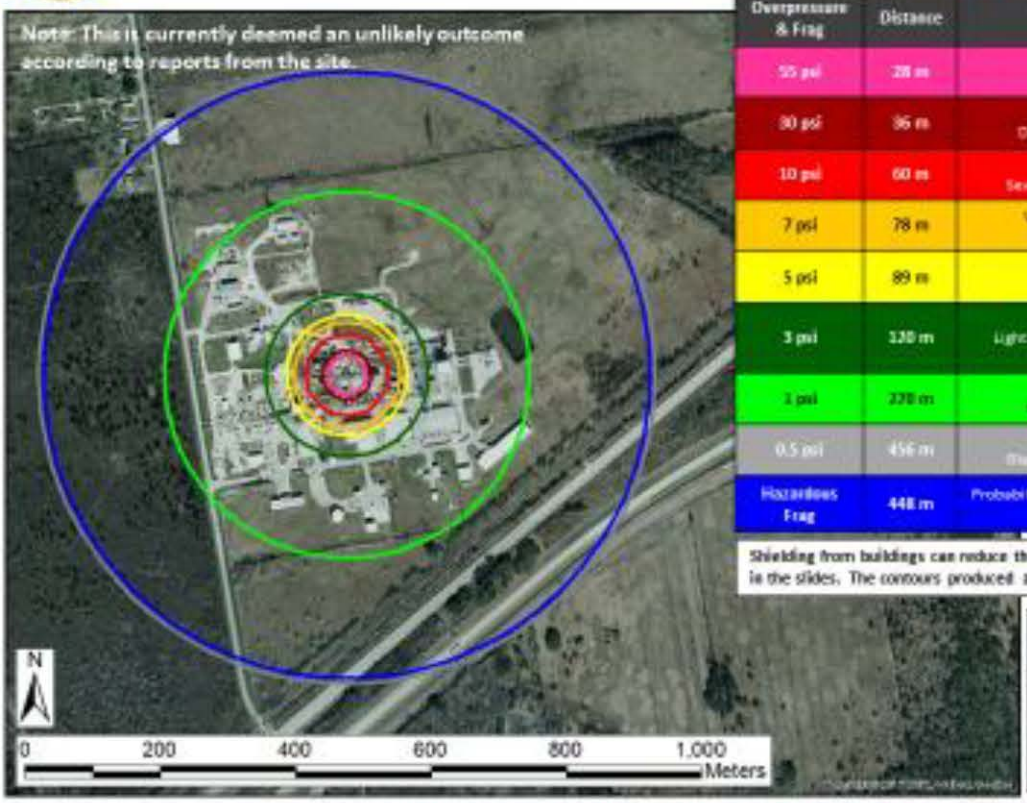
As the peroxide warms it will begin to degrade and produce heat. As this happens the containers of organic peroxide are in danger of releasing. Once the containers reach critical temperature, the organic peroxide organic by-products will release into the flood waters and surrounding environment. This hydrogen peroxide can quickly react with organic materials in the flooded areas. This poses a threat of fire and release of volatile organic chemicals.

Recommended EPA Response Strategy

The chemicals which could be released in this event pose threats to both public health and the environment. EPA will coordinate all actions with local emergency officials, TCEQ, and Texas Emergency Management officials

1. If feasible, EPA ASPECT plane will perform overflight to determine if any areas are still in danger of reaction.
2. Assuming access is possible, perform air monitoring beginning at a 1.5 mile radius of the facility to determine a safe work area. Air monitoring strategy will be based on the chemical classes stored at the facility to determine a safe working area. Results will be immediately relayed to Unified Command.
3. Using safe operating practices, including the use of hazardous materials ensembles, determine a safe approach to the facility to assess the damage.
4. Consult with Unified Command and facility representatives to determine if mitigation can be safely performed.
5. Perform air monitoring for all sensitive populations within 3 miles of the facility.
6. Perform sampling as needed once hazard assessment is complete
7. Consult with local officials to allow evacuated citizens to return as soon as possible.

Human Injury & Structural Damage Contours



Overpressure & Frag	Distance	Human Injury/Structural Damage (details on following slides)
55 psi	28 m	100% fatalities Complete structure blowout
30 psi	36 m	Near 100% fatalities Destruction of primary structural components
10 psi	60 m	High fatality rate Severe damage to primary structural components
7 psi	78 m	Widespread fatalities, 50% eardrum rupture Damage to primary structural components
5 psi	89 m	Universal injuries Severe damage to light structures
3 psi	120 m	Serious injuries common Light damage to primary structural components; light structures damaged
1 psi	220 m	Light injuries occur Non-structural component severe damage
0.5 psi	456 m	Temporary eardrum damage Glass breaks, non-structural components damage
Hazardous Frag	448 m	Probability of being struck in the open by primary/hazardous fragmentation is less than 1%

Shielding from buildings can reduce the hazard-to-effect contour distances shown in the slides. The contours produced are representative of open terrain effects.

FACTS

Crosby, Texas

Location:

29.949° N / 95.022° W

Amount: 7,600 lb TNT-equivalent

Model: BOOM (JIEDDO)